

***Runcina macrodenticulata* n. sp.,  
a new Gastropoda Opisthobranchia  
from the Strait of Gibraltar**

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**Abstract.** — *Runcina macrodenticulata* n. sp. is characterized by a ground slightly brown or olive green, with a dorsal pattern of rich dark patches and yellowish white specks distributed regularly. On the back, in the cephalic region there are two dark olive green bands and, externally to these, are two yellowish white curved bands. These bands are separated by means of a medial clear brown band. There are three gills. The radular formula is  $20 \times 1.1.1$ . The central tooth is slightly bilobed, each lobe having 4-6 slender denticles. The lateral teeth are hook-shaped and show 8 big denticles. The 4 gizzard plates have 7 irregular crests or denticles.

**Résumé.** — *Runcina macrodenticulata* n. sp., du détroit de Gibraltar (nord de l'Afrique), est caractérisé par une coloration générale marron clair ou vert olive, avec un dessin dorsal constitué de nombreuses taches sombres et de petits points blanc jaunâtre régulièrement distribués. Deux bandes vert olive foncé bordent la région céphalique et sont flanquées latéralement de deux bandes blanc jaunâtre. Ces bandes sont séparées par une autre bande marron clair. Il y a trois branchies. La formule radulaire est  $20 \times 1.1.1$ . La dent centrale est légèrement bilobée, chaque lobe ayant 4 à 6 petits denticules. Les dents latérales sont crochues et portent 8 forts denticules. Les 4 plaques gésciales ont 7 crêtes irrégulières.

**Resumen.** — La especie *Runcina macrodenticulata* n. sp. se caracteriza por su coloración general castaño claro o verde oliva, con numerosas manchas pequeñas de color negro y también otras blanco amarillento regularmente distribuidas sobre el dorso. El borde del notó es de color castaño claro. En la región cefálica existe una banda longitudinal central de color castaño y otras dos laterales verde oliva. Externamente a éstas, la región cefálica se muestra de color blanco amarillento. *R. macrodenticulata* tiene tres branquias. La fórmula radular es  $20 \times 1.1.1$ , con los dientes centrales ligeramente bilobulados y los laterales ganchudos y provistos de 8 denticulos bien desarrollados. Las 4 placas gástricas tienen 7 crestas irregulares.

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INTRODUCTION

Several animals of an unknown species of *Runcina* were collected during the international expedition of marine biology CEUTA-86, in the Strait of Gibraltar (Northern Africa) during may of 1986, organized by the Laboratoire de Biologie des Invertébrés Marins et Malacologie of the Muséum national d'Histoire naturelle, Paris (Dr. P. BOUCHET), and the Laboratorio de Biología Marina de la Facultad de Biología de Sevilla (Dr. J. C. GARCÍA-GÓMEZ).

This new species, named *Runcina macrodenticulata*, constitutes the third new species collected during the expedition CEUTA-86. The description of the other two unknown species, *Tambja ceutae* García-Gómez and Ortea, 1988, and *Trapania hispalensis* Cervera and García-Gómez, 1988, were published recently (GARCÍA-GÓMEZ and ORTEA, 1988; CERVERA and GARCÍA-GÓMEZ, 1988).

Order CEPHALASPIDEA Fischer, 1883

Family RUNCINIDAE H. and A. Adams, 1853

Genus RUNCINA Forbes and Hanley, 1853

***Runcina macrodenticulata* n. sp.**

MATERIAL. — Five specimens were dredged up near the Playa de Benitez (35°54'12" N; 5°19'39" W) from a depth of 25m.

DESCRIPTION

**External anatomy** (fig. 1 A) : The specimens (3-4 mm in length) have the notum slightly convex and the head is bilobed in front. The anus is located behind the end of the notum to left of the three gills, which are situated posteriorly on the right side. The food extends as a short tail during locomotion behind the notum. There is no posterior notal crest.

**Coloration** : *R. macrodenticulata* displays a ground colour slightly brown or olive green, with a dorsal pattern of rich dark patches and yellowish white specks distributed regularly. In some specimens the yellowish white specks are as abundant as those of the notum which are whitish in colour. The notum has a clear narrow brown border. The cephalic region shows a middle line brown band, two lateral dark olive green bands and, externally to these, there are two yellowish white bands. The foot has a dark olive green band and translucent margins.

**Internal anatomy** : The radular formula is  $20 \times 1.1.1$  (one specimen of 4 mm in length). The rachidian teeth are slightly bilobed, each lobe having 4-6 denticles which have irregular sizes. The lateral teeth are broad and hook-shaped and show 8 big denticles (fig. 1 B-C). The 4 gizzard plates have 7 transversal crests. Some of these crests are made up of two or three little crests which joined together to form the principal crests (fig. 1 D).

ORIGIN OF THE NAME. — This species of *Runcina* is named *macrodenticulata* for the big denticles present in the lateral teeth of the radula.

HOLOTYPE. — One specimen of 3 mm in length has been deposited in the collections of the Muséum national d'Histoire naturelle, Paris. The paratypes are located in the collections of the Laboratorio de Biología marina, Sevilla.

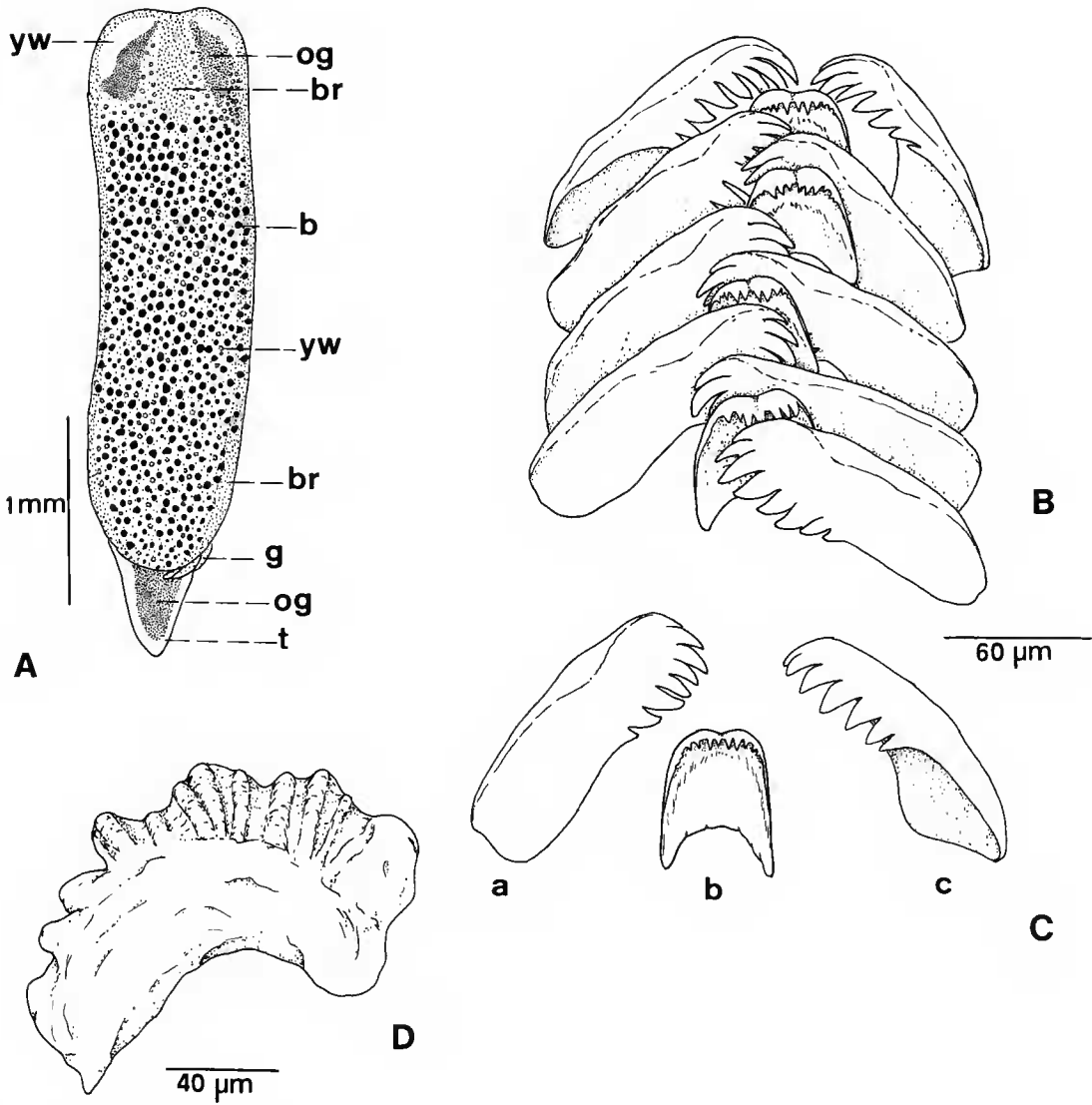


FIG. 1. — *Runcina macrodenticulata* n. sp. : A, dorsal view of an animal (b = black; br = brown; g = gills; og = olive green; t = translucent; yw = yellowish white); B, radula; C, details of the radular teeth (a, c, frontal and lateral view of a lateral tooth; b, central tooth); D, lateral view of a gizzard plate.

## DISCUSSION

The radula of our species, with lateral teeth provided with some big denticles, makes it different from all the atlantic and mediterranean species of *Runcina* in which the lateral teeth are either smooth (*R. capreensis* Mazzarelli, 1894; *R. africana* Pruvot-Fol, 1953; *R. ferruginea* Kress, 1977; *R. adriatica* Thompson, 1980; *R. brenkoeae* Thompson, 1980 and *R. zavodniki* Thompson, 1980) or finely denticulated (*R. coronata* Quatrefages, 1844 and *R. aurata* García, López, Luque and Cervera, 1986). Besides in *R. capreensis* the central teeth are also smooth (MAZZARELLI, 1894; KRESS, 1977; THOMPSON and BRODIE, 1988). In regard to the coloration, the species *R. capreensis*, *R. ferruginea*, *R. adriatica*, *R. brenkoeae* and *R. zavodniki* differ from *R. macrodenticulata*. Although the description that have been done on the coloration of *R. coronata* show important differences (QUATREFAGES, 1844; ALDER and HANCOCK, 1846; VAYSSIÈRE, 1883, 1913, 1930; PRUVOT-FOL, 1954; ORTEA, 1976; THOMPSON, 1976, 1980; THOMPSON and BROWN, 1976; KRESS, 1977; BALLESTEROS and ORTEA, 1981; GARCÍA *et al.*, 1986), especially if one takes as a point of reference the original description made by QUATREFAGES (1844) (on account of this we think that this species has to be revised). However *R. coronata* differs from *R. macrodenticulata* because the latter displays a ground colour slightly brown or olive green with dark patches and yellowish white specks on the notum, while *R. coronata* is very dark. Besides, *R. macrodenticulata* has a middle of brown band and two lateral dark olive green bands in the cephalic region, which are not present in *R. coronata*. Our species presents a similar coloration to that of *R. africana* and *R. aurata* (PRUVOT-FOL, 1953; GARCÍA *et al.*, 1986), but the dorsal bands of the cephalic region, among other features, are different.

The rest of the *Runcina* species reviewed by THOMPSON and BRODIE (1988) differ from *R. macrodenticulata* in the radula. Only radula of *R. inconspicua* Verrill, 1901/03, is unknown, but this species differs from *R. macrodenticulata* because it has a dark green-brown notum with a narrow orange border and the foot is light green with dots and orange-violet margins (VERRILL, 1901/03; KRESS, 1977; THOMPSON and BRODIE, 1988). The radula of *R. prasina* Mörch, 1863 is unknown too, but according to KRESS (1977) what is known about this species makes it doubtful if it grouping within the genus *Runcina* is correct.

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## REFERENCES

- ALDER, J., and A. HANCOCK, 1846. — Notices of some new and rare British species of naked Mollusca. *Ann. Mag. nat. Hist.*, **18** : 289-294.
- BALLESTEROS, M., and J. A. ORTEA, 1981. — Nota sobre dos opistobranquios del litoral catalán. *P. Dept. Zool.*, **6** : 33-38.

- CERVERA, J. L., and J. C. GARCÍA-GÓMEZ, 1988. — Dos nuevas especies de *Trapania* Pruvot-Fol, 1931 (Gastropoda : Nudibranchia) del sur de España. *Boll. malacol.*, **24** (9-12) : 189-204.
- GARCÍA, J. C., C. M. LÓPEZ, A. A. LUQUE and J. L. CERVERA, 1986. — Descripción comparativa de *Runcina aurata* n. sp. y *R. coronata* (Quatrefages, 1844) (Gastropoda : Opisthobranchia). *Cah. Biol. mar.*, **27** : 457-468.
- GARCÍA-GÓMEZ, J. C., and J. A. ORTEA, 1988. — Una nueva especie de *Tambja* Burn, 1962 (Mollusca, Nudibranchia). *Bull. Mus. natn. Hist. nat., Paris*, 4<sup>e</sup> sér., **10**, A (2) : 301-307.
- KRESS, A., 1977. — *Runcina ferruginea* n. sp. (Cephalaspidea : Opisthobranchia : Gastropoda), a new Runcinid from Great Britain. *J. mar. biol. Ass. U.K.*, **61** : 177-191.
- MAZZARELLI, G., 1894. — Recherche sulle Peltidae del Golfo di Napoli. *Atti R. Accad. Sci. Fis. Mat. Naples*, ser. 2, **6** (4) : 1-18.
- ORTEA, J. A., 1976. — Primera cita de *Runcina coronata* (Quatrefages, 1844) (Gastropoda, Opisthobranchia, Runcinacea) para el litoral ibérico. *Asturnatura*, **3** : 165-167.
- PRUVOT-FOL, A., 1953. — Étude de quelques opisthobranches de la côte atlantique du Maroc et du Sénégal. *Trav. Inst. scient. chérif.*, **5** : 105 p.
- 1954. — Mollusques Opisthobranches. *Faune Fr.*, **58**. Paris, Paul Lechevalier.
- QUATREFAGES, J., 1844. — Mémoire sur les gastéropodes phlébentérés (Phlebenterata Nob.), ordre nouveau de la classe des Gastéropodes, proposé d'après l'examen anatomique et physiologique des genres Zéphyrine (*Zephyrina* Nob.), (*Acteon* Oken), Actéonie (*Acteoniae* Nob.), Amphorine (*Amphorina* Nob.), Pavois (*Pelta* Nob.), Chalide (*Chalidis* Nob.). *Annls Sci. nat.*, 3<sup>e</sup> sér., **1** : 129-183.
- THOMPSON, T. E., 1976. — Biology of Opisthobranch Molluscs. I. London, Ray Society.
- 1980. — New species of the bullomorph genus *Runcina* from the northern Adriatic sea. *J. moll. Stud.*, **46** : 154-157.
- THOMPSON, T. E., and G. BRODIE, 1988. — Eastern mediterranean Opisthobranchia : Runcinidae (Runcinacea), with a review of runcinid classification and a description of a new species from Fiji. *J. moll. Stud.*, **54** : 339-346.
- THOMPSON, T. E., and G. H. BROWN, 1976. — British Opistobranch Molluscs. Synopses of the British Fauna. New Series, 8. Academic Press.
- VAYSSIÈRE, A., 1883. — Les genres *Pelta* (*Runcina*) et *Tyrodina*. *Annls Sci. nat.*, (Zool.), sér. 6, **15** : 46 p.
- 1913. — Mollusques de la France et des régions voisines. I. Encyclopédie Scientifique, Paris, G. Doin C<sup>ie</sup> Éditeurs.
- 1930. — *Pelta coronata* de Quatrefages, 1844. *Faune Flore Méditerr.* Comm. Inter. pour l'explor. scient. de la Mer Méditerranée, Paris.
- VERRILL, A. E., 1901/03. — Additions to the fauna of the Bermudas. *Trans. Conn. Acad. Arts. Sci.*, **11** : 15-62.